



**US Army Corps  
Of Engineers**  
Wilmington District

# PUBLIC NOTICE

Issue Date: **July 15, 2011**  
Comment Deadline: **August 15, 2011**  
Corps Action ID #: **1999-30776/ 1995-04596/ 2011-01237**  
TIP Project No. R-2248 E and R-2123 CE

The Wilmington District, Corps of Engineers (Corps) has received an application from the North Carolina Department of Transportation (NCDOT) seeking Department of the Army authorization to discharge dredged or fill material into waters of the United States associated with construction of the Charlotte Outer Loop (I-485) TIP project number R-2248 E from east of I-77 to west of I-85 and the reconfiguration of the I-485/I-85 interchange TIP project number R- 2123 CE in Mecklenburg and Cabarrus Counties, North Carolina.

Specific plans and location information are described below and shown on the attached plans. This Public Notice with all attached plans is also available on the Wilmington District Web Site at [www.saw.usace.army.mil/wetlands](http://www.saw.usace.army.mil/wetlands)

**Applicant:** North Carolina Department of Transportation (NCDOT)  
C/o Dr. Gregory J. Thorpe, PhD, Manager  
Project Development and Environmental Analysis Branch  
1598 Mail Service Center  
Raleigh, North Carolina, 27699-1598

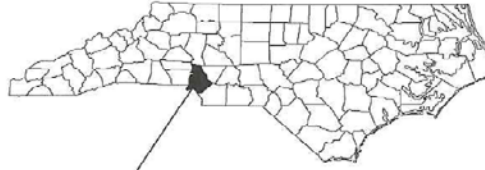
## **Authority**

The Corps will evaluate this application and decide whether to issue, conditionally issue, or deny the proposed work pursuant to applicable procedures under Section 404 of the Clean Water Act (33 U.S.C. 1344).

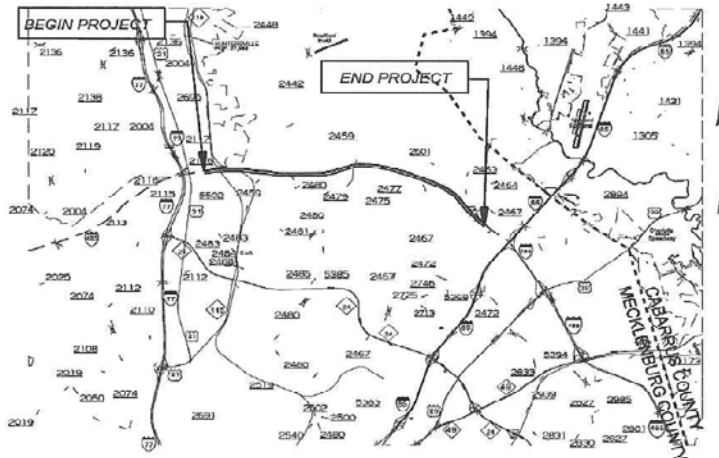
## **Location**

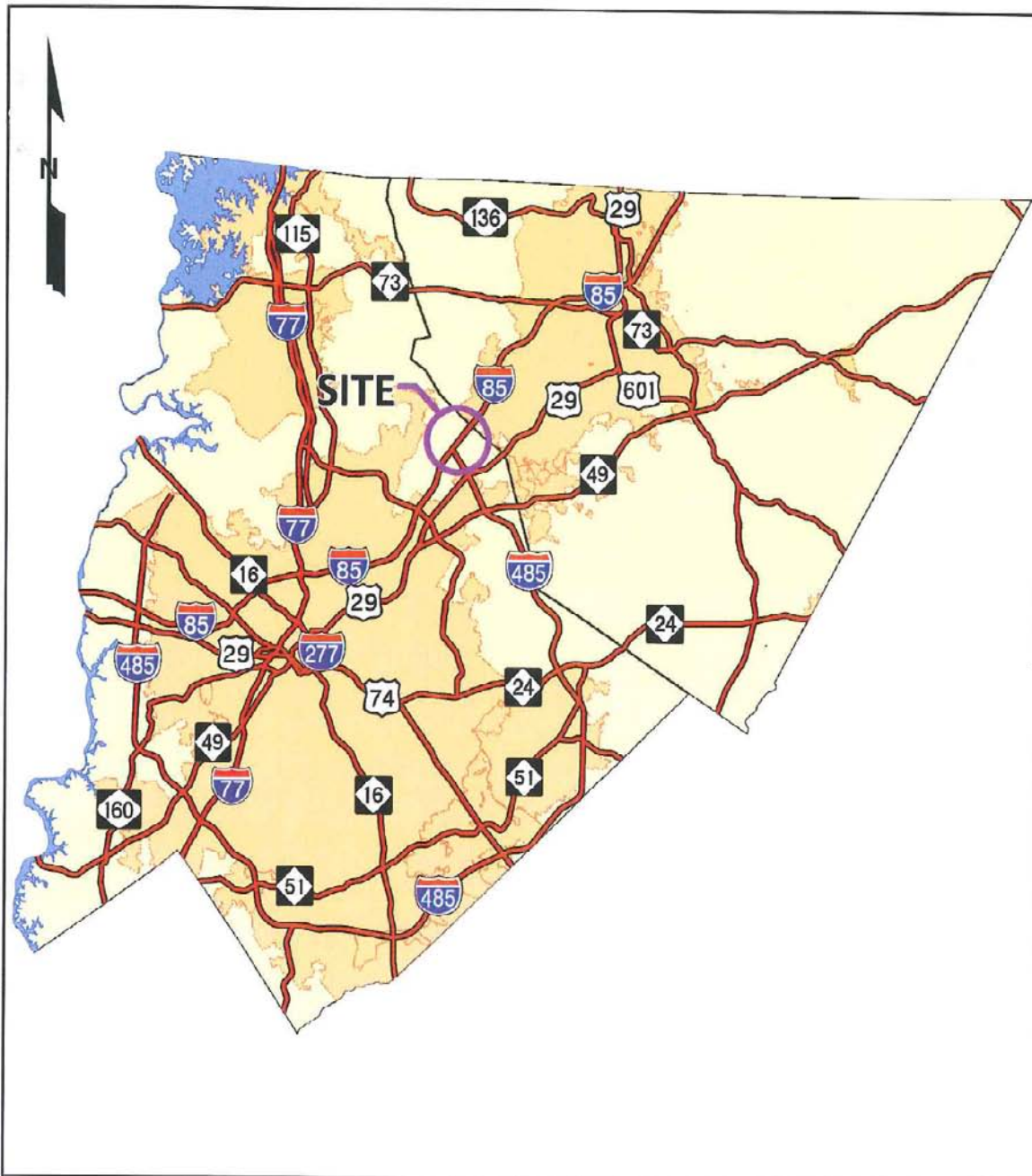
The proposed 5.7 mile new location freeway ( R-2248 E) is located beginning at east of I-77 to west of I-85, between existing NC 115( Old Statesville Road) to Mallard Creek Road/ Odell School Road, in Mecklenburg County, to the north of the City of Charlotte, North Carolina. The I-485/I-85 interchange reconfiguration ( R-2123CE) is located just west of Mallard Creek Road in Mecklenburg County and terminates to the north of the existing I-485/ 85 interchange, along I-85 in Cabarrus County, North Carolina. The proposed project is located in adjacent wetlands and tributaries that are hydrologically connected to the Yadkin River, Hydrologic Cataloging Unit 03040105 and the Catawba River, Hydrologic Cataloging Unit 03050101. The project is more specifically located starting at Latitude 35.365343 N, Longitude -80.827013 W and ending at Latitude 35.367415 N, -80.714928 W.

# NORTH CAROLINA

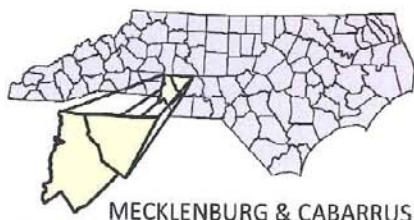


**MECKLENBURG COUNTY**





## VICINITY MAP



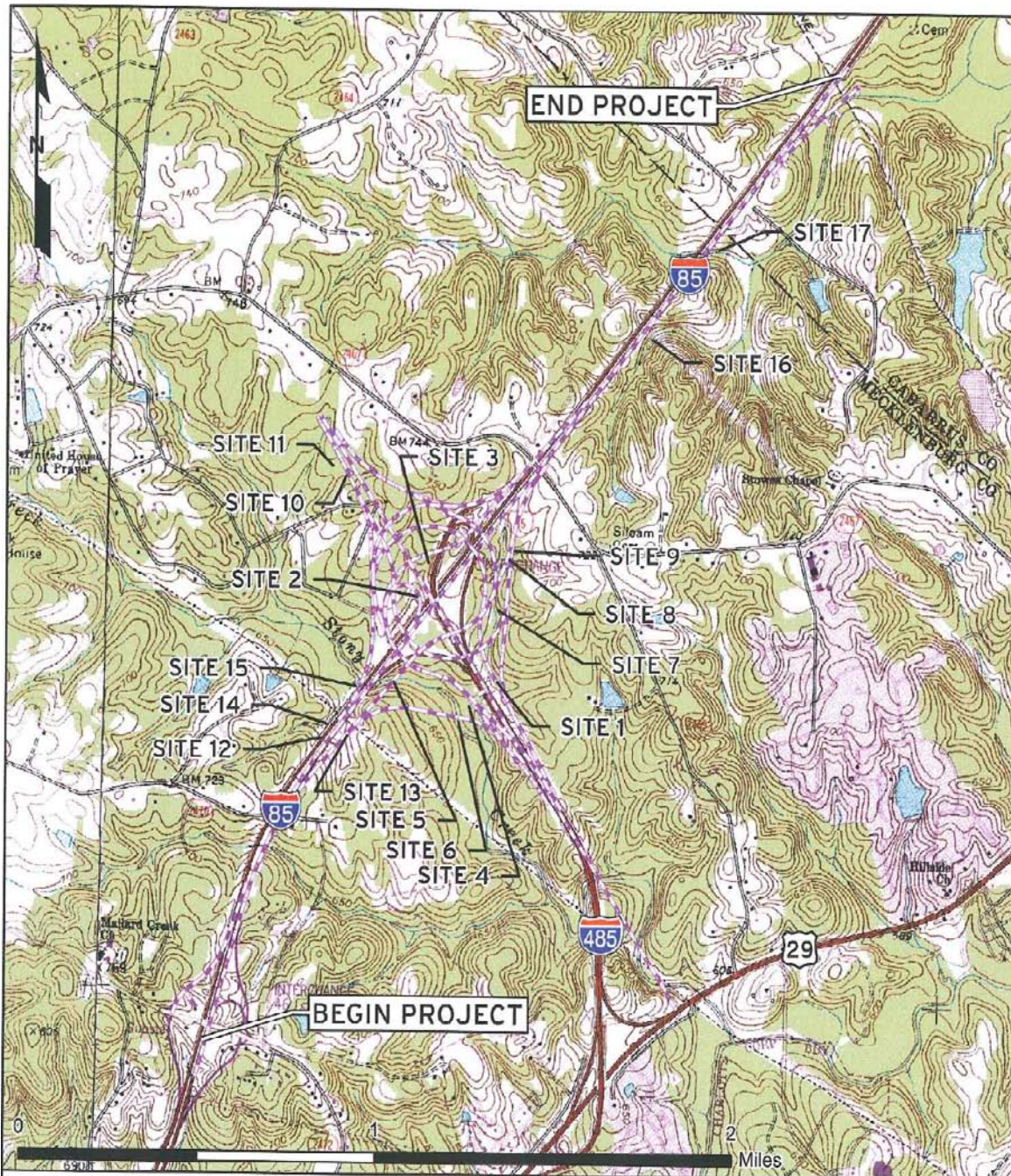
## NCDOT

DIVISION OF HIGHWAYS  
MECKLENBURG AND CABARRUS COUNTIES

PROJECT C202523 (R-2123CE)  
I-85/ I-485 INTERCHANGE

SHEET 1





## LOCATION MAP

**NCDOT**

DIVISION OF HIGHWAYS  
MECKLENBURG AND CABARRUS COUNTIES

PROJECT C202523 (R-2123CE)  
I-85/ I-485 INTERCHANGE

SHEET 2

## **Background**

The proposed project is one of two final remaining sections of the Charlotte Outer Loop (I-485) and includes construction of a new split diamond interchange with Prosperity Church Road and a diverging diamond interchange with Mallard Creek/Odell School Road. The Final Environmental Impact Statement (FEIS) for the North Charlotte Outer Loop (I-485) was approved on January 29, 1992 under R-2248B. The proposed interchange configuration for I-485 and Prosperity Church Road deviates from that evaluated in the 1992 FEIS and was re-evaluated as a Categorical Exclusion (CE). The I-485 and Prosperity Church Interchange Study CE was approved by the Federal Highway Administration in May 2006. The I-485/ I-85 interchange reconfiguration (R-2123 CE) completes the Charlotte Outer Loop project and ties R- 2248 E, to the I-485/ I-85 interchange resulting in a full directional freeway to freeway interchange of I-85 and I-485. In 1989, the Federal Highway Administration (FHWA) approved and published an FEIS for extending I-485 from US 74 to I-85 in Mecklenburg County. This project was referred to as R-2123. The R-2123 study included an analysis which modified the existing trumpet interchange at US 29 and I-85, located south of the current proposed I-485/ I-85 interchange reconfiguration. In November 2009, FHWA and NCDOT approved and published a Categorical Exclusion for the updated interchange modification design (R-2123 CE) to reflect the analysis of changes in impacts within the project area. In 2004, R-2248 E was inserted into the MERGER 01 Process at Concurrence Point 4A/2A- Avoidance and Minimization/ Bridge Placements and Lengths. Discussions during the September 23, 2004 Merger Team Field Review Meeting for R-2248E, regarding the above referenced TIP Project No. R-2123 CE which is located to the east of R-2248E, directed that the proposed projects should be coordinated together. Both R-2248 E and R-2123 CE were coordinated with an additional project known as TIP I-3803 B, which is a widening project located north of the existing I-485/ I-85 interchange along I-85. The Corps published a Public Notice for I-3803 B, Corps Action ID SAW- 2009-02290 on April 21, 2011. The Public Notice commenting period for I-3803 B closed on May 23, 2011. No comments were received regarding the I-85 widening project. The Corps continues to evaluate the project and has not yet issued a permit decision. An Indirect Screening and Land Use Scenario Assessment was prepared for R-2248 E in July 2009. These documents are available for review at the Asheville Regulatory Field Office of the Wilmington District U.S. Army Corps of Engineers, at 151 Patton Avenue, Asheville, North Carolina.

## **Applicant's Stated Purpose**

The proposed project's purpose as stated by the applicant is to complete the Charlotte Outer Loop (I-485).

## **Existing Site Conditions**

The proposed project is located within the Southern Outer Piedmont Ecoregion within both the Rocky River Basin (HUC 03040105) of the Yadkin Pee Dee River Watershed and the Upper Catawba Basin (03050101) of the Catawba River Watershed. A portion of the proposed project (R-2248 E) is located within one mile of a Water Supply Watershed, although no streams identified within the project area drain into the Water Supply Watershed. All streams within the project area are classified as North Carolina Division of Water Quality (NC DWQ) Class C waters. The following streams within the project area are listed on the North Carolina



Department of Environment and Natural Resources (NCDENR) 2010 Final 303(d) list: Clarks Creek, Stony Creek, and Rocky River. Both Clarks Creek and Stony Creek are listed as having impaired biologic integrity from its source to Mallard Creek. Rocky River is listed as having impaired biologic integrity from its source to the mouth of Reedy Creek and violating standards for turbidity and fecal coliform.

Biotic communities identified within the proposed project area include: Agricultural lands, existing roadways, residential, and commercial; Old Field, Old Field/Scrub Shrub, Scrub-Shrub/Pine Forest, Pine Forest, Pine Forest/Scrub-Shrub/Mixed Hardwood, Oak/Mixed Hardwood/Pine Forest, Oak/ Mixed Hardwood/Pine Forest, Oak/Hickory and Mixed Hardwood Forest, Mixed Hardwood /Scrub Shrub, Mixed Hardwood/ Pine Forest, Mixed Hardwood/Oak Hickory Forest, Mixed Hardwood, Oak/Hickory Forest, Bottomland Hardwood Forest, streams, wetlands, and impoundments.

### **Project Description**

The following description of the work is taken from data provided by the applicant and separated by TIP numbers R-2248 E and R-2123 CE.

R- 2248 E is a 5.7 mile proposed project which begins west of I-77 at NC 115 (Old Statesville Road) in Mecklenburg County, and continues east along a new location alignment until its terminus east of I-85 at the intersection of Mallard Creek Road and Odell School Road.

Jurisdictional aquatic resource impacts due to the proposed construction will occur at 16 sites. Table 1 below contains a summary of the proposed jurisdictional wetland and stream resources by site number.

**Table 1. Summary of Permanent Impacts for R-2248 E**

<b>Site No.</b>	<b>Resource label/name</b>	<b>HUC</b>	<b>Non-Riparian Wetland fill impacts (acre)</b>	<b>Riparian fill Wetland impacts (acre)</b>	<b>Mechanized Clearing (acre)</b>	<b>Stream impacts fill (linear feet)</b>	<b>Stream impacts bank stabilization (linear feet)</b>
<b>1</b>	<b>WZ</b>	<b>03050101</b>	-----	<b>0.385</b>	<b>0.020</b>	<b>297</b>	-----
	<b>UT to Dixon Branch (S4)</b>						
<b>2</b>	<b>WAA</b>	<b>03050101</b>	-----	<b>0.222</b>	<b>0.028</b>	<b>602</b>	-----

	<b>UT to Dixon Branch (S3, S3.5)</b>						
<b>3</b>	<b>WAD</b>	<b>03040105</b>	-----	<b>0.02</b>	<b>0.01</b>	<b>48</b>	<b>24</b>
	<b>UT to Clarks Creek (S 4.5)</b>						
<b>4</b>	<b>WN</b>	<b>03040105</b>	-----	<b>0.55</b>	<b>0.08</b>	<b>428</b>	<b>69</b>
	<b>UT to Clarks Creek (S5)</b>						
<b>5</b>	<b>WM</b>	<b>03040105</b>	-----	<b>0.12</b>	-----	<b>489</b>	<b>56</b>
	<b>UT to Clarks Creek (S6)</b>						
<b>6</b>	<b>Clarks Creek (S7)</b>	<b>03040105</b>	-----	-----	-----	<b>276</b>	<b>36</b>
<b>7</b>	<b>WFG</b>	<b>03040105</b>	-----	<b>0.28</b>	-----	<b>1,561</b>	<b>21</b>
	<b>WH</b>			<b>0.97</b>	<b>0.06</b>		
	<b>WI</b>			<b>0.15</b>	-----		
	<b>WJ</b>			<b>0.32</b>	-----		
	<b>UT to Clarks Creek (S8, S9)</b>						
<b>8</b>	<b>WB</b>	<b>03040105</b>	-----	<b>0.73</b>	-----	<b>2,497</b>	<b>28</b>
	<b>WC</b>			<b>0.33</b>	-----		
	<b>UT to Stony Creek (S 11, S 13)</b>						
<b>9</b>	<b>UT to Stony Creek (S 15)</b>	<b>03040105</b>	-----	-----	-----	<b>81</b>	<b>37</b>
<b>10</b>	<b>UT to Stony Creek (S 16)</b>	<b>03040105</b>	-----	-----	-----	<b>44</b>	<b>51</b>

<b>11</b>	<b>WT</b>	<b>03040105</b>	-----	<b>0.14</b>	-----	<b>138</b>	-----
	<b>UT to Stony Creek (S 18)</b>						
<b>12</b>	<b>W109</b>	<b>03040105</b>	<b>0.05</b>	-----	-----		
	<b>WBA</b>			<b>1.59</b>	<b>0.16</b>		
<b>13</b>	<b>WL</b>	<b>03040105</b>	<b>0.11</b>	-----	-----		
	<b>WO</b>		<b>0.13</b>		<b>0.03</b>		
	<b>WP</b>		<b>0.07</b>		-----		
<b>14</b>	<b>W101</b>	<b>03040105</b>	-----	<b>0.02</b>	-----	<b>803</b>	<b>35</b>
	<b>WQ</b>			<b>0.60</b>			
	<b>UT to Stony Creek (S 101, S19)</b>			-----			
<b>15</b>	<b>WK</b>	<b>03040105</b>	-----	<b>0.08</b>	<b>0.01</b>	<b>295</b>	<b>50</b>
	<b>UT to Rocky River(S 20, S20-2)</b>						
<b>16</b>	<b>W115</b>	<b>03040105</b>	<b>0.03</b>	-----	-----	<b>190</b>	
	<b>UT to Stony Creek (S 103)</b>						
		<b>Total Impacts:</b>	<b>0.39</b>	<b>6.507</b>	<b>0.398</b>	<b>7,749</b>	<b>407</b>

R- 2123 CE is a proposed interchange modification from the existing three-leg, free flow ‘trumpet’ I-485/I-85 interchange to a full directional freeway interchange using a ‘turbine’ design. Existing culverts and pipes will be extended in order to facilitate the interchange reconfiguration in addition to new pipe installation. The Mallard Creek Road (SR 2467) bridge over I-85, which is located north of the proposed interchange modification, will need to be realigned and expanded as a part of the proposed project. Additionally, the new bridge will cause approximately 0.43 miles of Mallard Creek Road to be realigned. This realignment proposes a shift of the road to the north of its existing location. The replacement overpass at Mallard Creek Road/ I-85 is a bridge replacement necessary to accommodate the additional lanes required for the I-485/I-85 interchange modification.



Jurisdictional aquatic resource impacts due to the proposed construction will occur at 17 sites. Table 2 below contains a summary of the proposed jurisdictional wetland and stream resources by site number:

**Table 2: Summary of Permanent Impacts for R-2123 CE**

<b>Site No.</b>	<b>Wetland Label/ Name</b>	<b>Stream Label/ Name</b>	<b>Wetland Fill (acre)</b>	<b>Stream fill (linear Feet)</b>	<b>Streambank Stabilization (linear feet)</b>
<b>1</b>	-----	<b>UT1 to Stony Creek (BD)</b>	-----	<b>49</b>	-----
<b>2</b>	<b>SA</b>	<b>UT to Stony Creek (SB)</b>	<b>0.04</b>	<b>1,069</b>	<b>63</b>
<b>3</b>	-----	<b>UT to Stony Creek (SB)</b>	-----	<b>239</b>	-----
<b>4</b>	<b>CH</b>	-----	<b>0.72</b>	-----	-----
<b>5</b>	-----	<b>Stony Creek</b>	-----	<b>456</b>	<b>195</b>
<b>6</b>	-----	<b>Stony Creek</b>	-----	<b>80</b>	-----
<b>7</b>	-----	<b>UT to Stony Creek (BA)</b>	-----	<b>1,461</b>	-----
<b>8</b>	-----	<b>UT to Stony Creek (BC)</b>	-----	<b>280</b>	-----
<b>9</b>	-----	<b>UT to Stony Creek (BB)</b>	-----	<b>147</b>	-----
<b>10</b>	<b>V#</b>	<b>UT to Stony Creek (23 #)</b>	<b>0.02</b>	<b>276</b>	<b>10</b>
<b>11</b>	-----	<b>UT to Stony Creek (22 #)</b>	-----	<b>45</b>	<b>10</b>
<b>12</b>	-----	<b>UT to Stony Creek (CD)</b>	-----	<b>151</b>	-----
<b>13</b>	-----	<b>UT to Stony Creek</b>	-----	<b>48</b>	-----

		(CM)			
<b>14</b>	<b>CF</b>	<b>UT to Stony Creek (CEC)</b>	<b>0.01</b>	<b>554</b>	-----
<b>15</b>	-----	<b>UT to Stony Creek (CEC)</b>	-----	<b>198</b>	-----
<b>16</b>	-----	<b>UT to Stony Creek (UT10)</b>	-----	<b>524</b>	-----
<b>17</b>	-----	<b>UT to Stony Creek (UT10A)</b>	-----	<b>62</b>	<b>82</b>
		<b>Total Impacts</b>	<b>0.79</b>	<b>5,639</b>	<b>360</b>

The total proposed impacts to jurisdictional waters of the U.S. in association with the construction of R- 2248 E and R-2123 CE are 14,155 linear feet of stream channel and 8.09 acres of wetlands. NC DOT proposes to provide compensatory mitigation for unavoidable impacts to jurisdictional waters of the U.S. associated with the construction of R-2248E and R-2123 CE by payment into the NC EEP in-lieu fee program.

### **Other Required Authorizations**

This notice and all applicable application materials are being forwarded to the appropriate State agencies for review. The Corps will generally not make a final permit decision until the North Carolina Division of Water Quality (NCDWQ) issues, denies, or waives State certification required by Section 401 of the Clean Water Act (PL 92-500). The receipt of the application and this public notice combined with appropriate application fee at the North Carolina Division of Water Quality central office in Raleigh will constitute initial receipt of an application for a 401 Water Quality Certification. A waiver will be deemed to occur if the NCDWQ fails to act on this request for certification within sixty days of the date of the receipt of this notice in the NCDWQ Central Office. Additional information regarding the Clean Water Act certification may be reviewed at the NCDWQ Central Office, Transportation Permitting Unit, 2321 Crabtree Boulevard, Raleigh, North Carolina 27604-2260. All persons desiring to make comments regarding the application for certification under Section 401 of the Clean Water Act should do so in writing delivered to the North Carolina Division of Water Quality (NCDWQ), 2321 Crabtree Boulevard, Raleigh, North Carolina 27604-2260 Attention: Mr. Brian Wren by August 14, 2011.

## Cultural Resources

The Corps has consulted the latest published version of the National Register of Historic Places (NHRP) and is not aware that any registered properties, or properties listed as being eligible for inclusion therein are located within the project area or will be affected by the proposed work within the R-2123 CE study area. In addition, in a letter dated December 18, 2007 from the State Historic Preservation Office (SHPO), comments were provided relating to both historic structures and archaeological resources that the SHPO is unaware of “any historic resources which would be affected by the project. Therefore, we have no comment on the undertaking as proposed.”

NCDOT conducted a Historic Property Survey in 2004 within the R-2248 E study area and determined that the following properties are eligible for listing on the National Register:

- Filling Station #2 (MK 1542)
- Bethesda School (MK 2325)
- Oehler Log House (MK 2496)
- Edgewood Plantation (MK 1541)

In September 2004, NCDOT, NC Historic Preservation Office (NCHPO), and FHWA concurred with the findings of effects of no adverse effect on both the Filling Station #2 and the Oehler Log House; no adverse effect with landscape commitments for the Bethesda School. However, the Bethesda School has since relocated to Rural Hall, outside the Area of Potential Effect, and the Filling Station #2 has been destroyed.

In October 2010, NCDOT, NCHPO, and FHWA concurred that R-2248E will have no adverse effect on the property. The Edgewood Plantation is a Local Landmark, and NCDOT will obtain a Certificate of Appropriateness (COA) from Charlotte-Mecklenburg Historic Landmarks Commission prior to project construction.

## Endangered and Threatened Species

The United States Fish and Wildlife Service (USFWS) list four federally protected species for Mecklenburg and Cabarrus Counties as of the September 22, 2010 listing (Table 3).

**Table 3. Federally Protected Species in Mecklenburg and Cabarrus Counties**

Common Name	Scientific Name	County	Federal Status	Habitat Present	Biological Conclusion	Survey Date
Smooth Coneflower	<i>Echinacea laevigata</i>	Mecklenburg	E	Yes	No Effect	2008 and September 2010
Schweinitz's sunflower	<i>Helianthus schweinitzii</i>	Mecklenburg and Cabarrus	E	Yes	May affect, not likely to adversely affect (R-2248 E)/May affect- Likely to Adversely Affect (R-2123CE)	2008 and September 2010

Michaux's sumac	<i>Rhus michauxii</i>	Mecklenburg	E	Yes	No Effect	2008 and September 2010
Carolina heelspitter	<i>Lasmigonia decorata</i>	Mecklenburg and Cabarrus	E	Yes	No Effect (R-2248 E)/ May Affect, Not Likely to Adversely Affect (R-2123 CE)	June 2008

NCDOT has conducted surveys along the proposed project corridors to identify suitable or critical habitat for species listed as federally endangered or threatened pursuant to the Endangered Species Act (ESA) of 1973. Based on information provided by NCDOT, the Corps of Engineers has determined that the proposed project activities requiring DA authorization would have no effect on two of the listed species known to occur within Mecklenburg and Cabarrus Counties. These species are the Michaux's sumac, *Rhus michauxii*; and the Smooth coneflower *Echinacea laevigata*. However, It has been determined that the proposed project activities requiring DA authorization may effect federally listed endangered species Schweinitz's sunflower *Helianthus schweinitzii* and the Carolina heelsplitter *Lasmigonia decorata*.

NCDOT prepared a Biological Assessment (BA) for R-2123 CE providing biological conclusions for all four federally listed endangered species. This report was submitted to the USFWS in January 2010.

In a Biological Opinion (BO) dated March 24, 2010, the USFWS concurred with NCDOT's findings of No Effect for Michaux's sumac, *Rhus michauxii*; and Smooth coneflower *Echinacea laevigata*, the "not likely to adversely affect" the Carolina heelsplitter *Lasmigonia decorata* and believe that the requirements under section 7 of the ESA are fulfilled. The finding for Schweinitz's sunflower *Helianthus schweinitzii* is May affect, likely to adversely affect. Formal consultation was initiated in January 2010 and concluded by the USFWS BO dated March 24, 2010 with the following conservation recommendations:

1. Notify the USFWS Asheville Field Office when the Schweinitz's sunflower plants have been transplanted. The notification should occur no later than 2 weeks after transplanting.
2. Provide a written report summarizing the survival of the relocated Schweinitz's sunflower plants, as well as any seemingly significant threats or management issues, within 13 months of transplanting completion. The report is to be submitted to the USFWS Asheville Field Office and include maps and photography sufficient to clearly convey the general vicinity and specific location of the conservation (transplant) area, the specific locations within the project area in which the Schweinitz's sunflower occurs and is monitored, and a condition assessment of the species and its habitat.



Surveys for R-2248 E project area were updated in 2008. No Michaux's sumac *Rhus michauxii* or smooth coneflower plants *Echinacea laevigata* or Carolina heelsplitter *Lasmigonia decorata* mussels were found within the R-2248 project area during the 2008 surveys. One population of Schweinitz's sunflower *Helianthus schweinitzii* was found near the Creek Breeze Road vicinity and in the proposed location of R-2248 E service road 'A'. The proposed service road 'A' cut/fill slopes have been designed to avoid direct impacts to this particular population. Additionally, the population is surrounded with orange safety fencing and clearly marked on project plans. Upon completion of the proposed project, the applicant proposes to install fifty feet of woven wire fence centered around the sunflower population. USFWS concurrence on R-2248 E was received by letter dated August 25, 2009.

## **Evaluation**

The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain values (in accordance with Executive Order 11988), land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. For activities involving the discharge of dredged or fill materials in waters of the United States, the evaluation of the impact of the activity on the public interest will include application of the Environmental Protection Agency's 404(b)(1) guidelines.

## **Commenting Information**

The Corps of Engineers is soliciting comments from the public; Federal, State and local agencies and officials, including any consolidate State Viewpoint or written position of the Governor; Indian Tribes and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment (EA) and/or an Environmental Impact Statement (EIS) pursuant to the National Environmental Policy Act (NEPA). Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing. Requests for a public hearing shall be

granted, unless the District Engineer determines that the issues raised are insubstantial or there is otherwise no valid interest to be served by a hearing.

Written comments pertinent to the proposed work, as outlined above, will be received by the Corps of Engineers, Wilmington District, until 5pm, August 14, 2011. Comments should be submitted to Ms. Liz Hair, Asheville Regulatory Field Office, 151 Patton Avenue, Room 208, Asheville, North Carolina 28801.

TIP PROJECT: R-2248E

CONTRACT: C202521

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS**MECKLENBURG COUNTY****WETLAND & STREAM  
IMPACT PERMIT  
DRAWINGS**LOCATION: I-485 (CHARLOTTE OUTER LOOP) FROM  
EAST OF I-77 TO WEST I-85

MAY - 5 2011

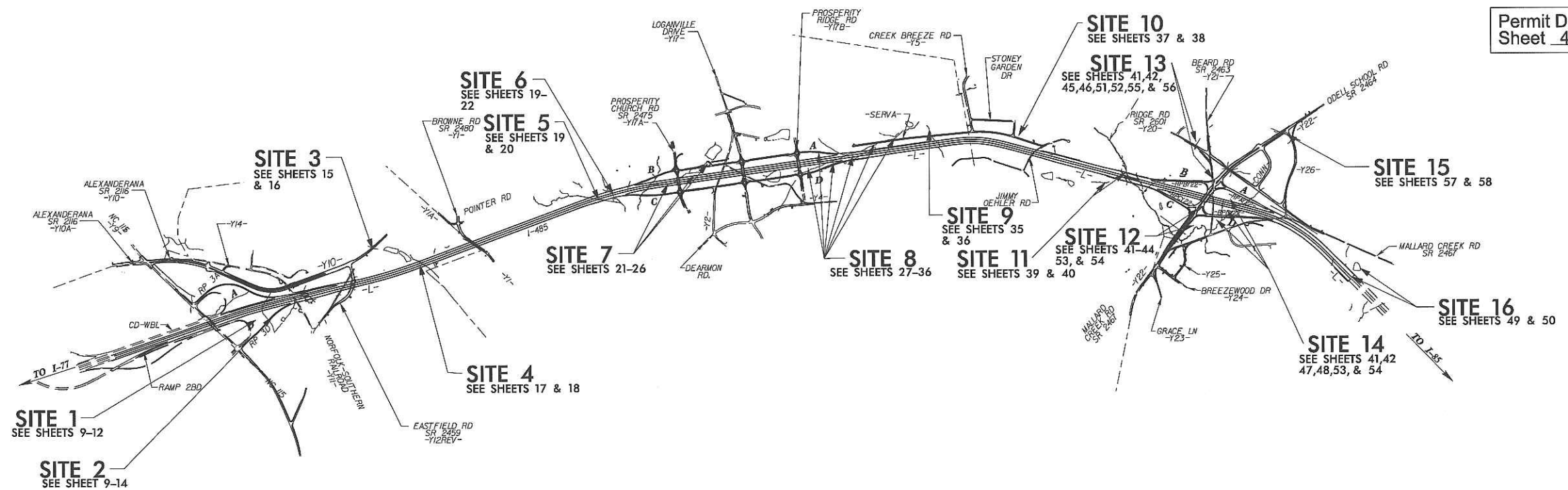
TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURES, CULVERTS,  
NOISE WALLS, RETAINING WALLS, SIGNING AND SIGNALS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2248E	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34410.3.GV2	NHF-04GS(27)	PE	



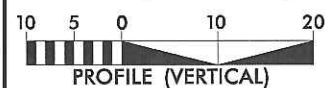
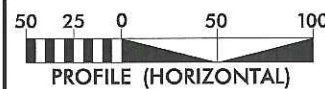
INCOMPLETE PLANS  
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

Permit Drawing  
Sheet 4 of 108A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES  
OF THE CITY OF CHARLOTTE AND THE TOWN OF HUNTERSVILLE

THIS IS A CONTROLLED ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.

## GRAPHIC SCALES



## DESIGN DATA

ADT 2006 = 62,000  
ADT 2035 = 161,600  
DHV = 10 %  
D = 55 %  
T = 15 % \*  
V = 70 m/h  
\* TTST 10% DUAL 5%  
FUNCTIONAL CLASSIFICATION  
FREEWAY

## PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2248E = 5.594 miles  
LENGTH STRUCTURES TIP PROJECT R-2248E = 0.121 miles  
TOTAL LENGTH OF TIP PROJECT R-2248E = 5.715 miles

Prepared in the Office of:

**WILBUR SMITH ASSOCIATES**

421 Fayetteville Street, Suite 1303, Raleigh, NC 27601 Phone (919) 755-0583

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

DAVID L. WILVER, P.E.  
PROJECT ENGINEER

LETTING DATE:

PROJECT DESIGN ENGINEER

## HYDRAULICS ENGINEER

SIGNATURE: P.E.

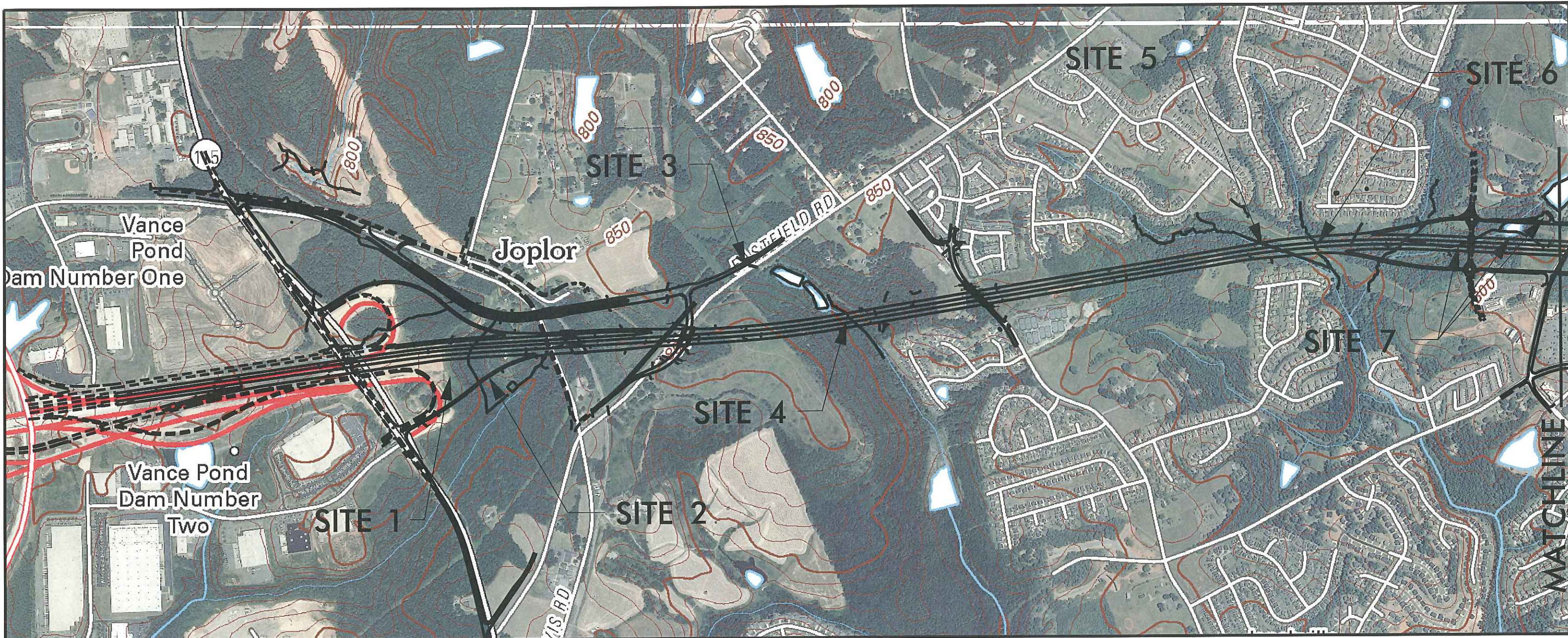
ROADWAY DESIGN  
ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER P.E.





***VICINITY  
MAPS***

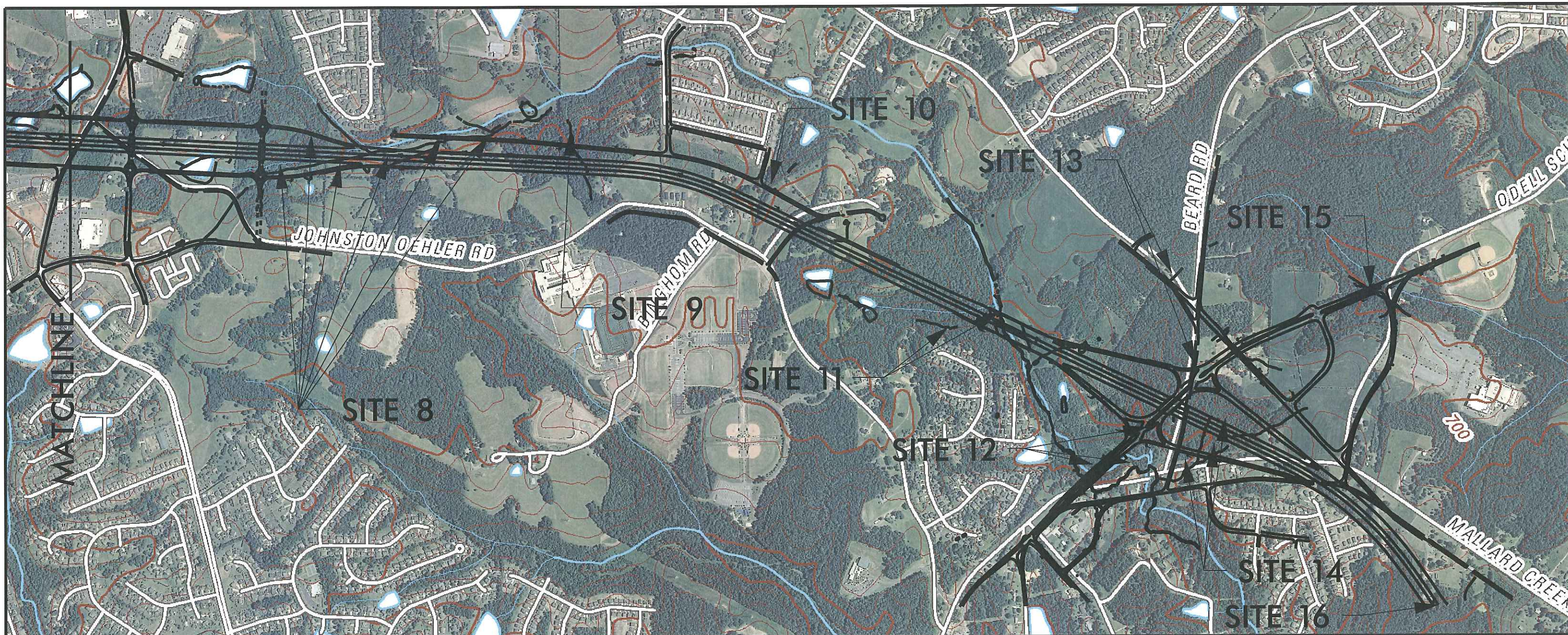
Permit Drawing  
Sheet 5 of 108

***NCDOT***

***DIVISION OF HIGHWAYS  
MECKLENBURG COUNTY  
PROJECT: C202521 (R-2248E)***

***I-485 (CHARLOTTE OUTER LOOP)  
FROM EAST OF I-77 TO  
WEST I-85***





***VICINITY  
MAPS***

Permit Drawing  
Sheet 6 of 108

***NCDOT***

***DIVISION OF HIGHWAYS  
MECKLENBURG COUNTY  
PROJECT: C202521 (R-2248E)***

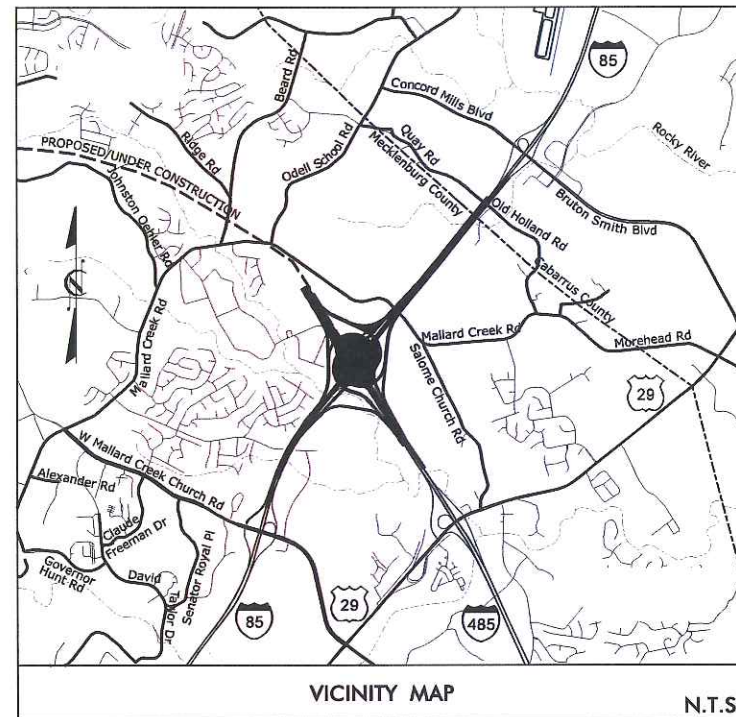
***I-485 (CHARLOTTE OUTER LOOP)  
FROM EAST OF I-77 TO  
WEST I-85***



TIP PROJECT: R-2123CE

CONTRACT: C202523

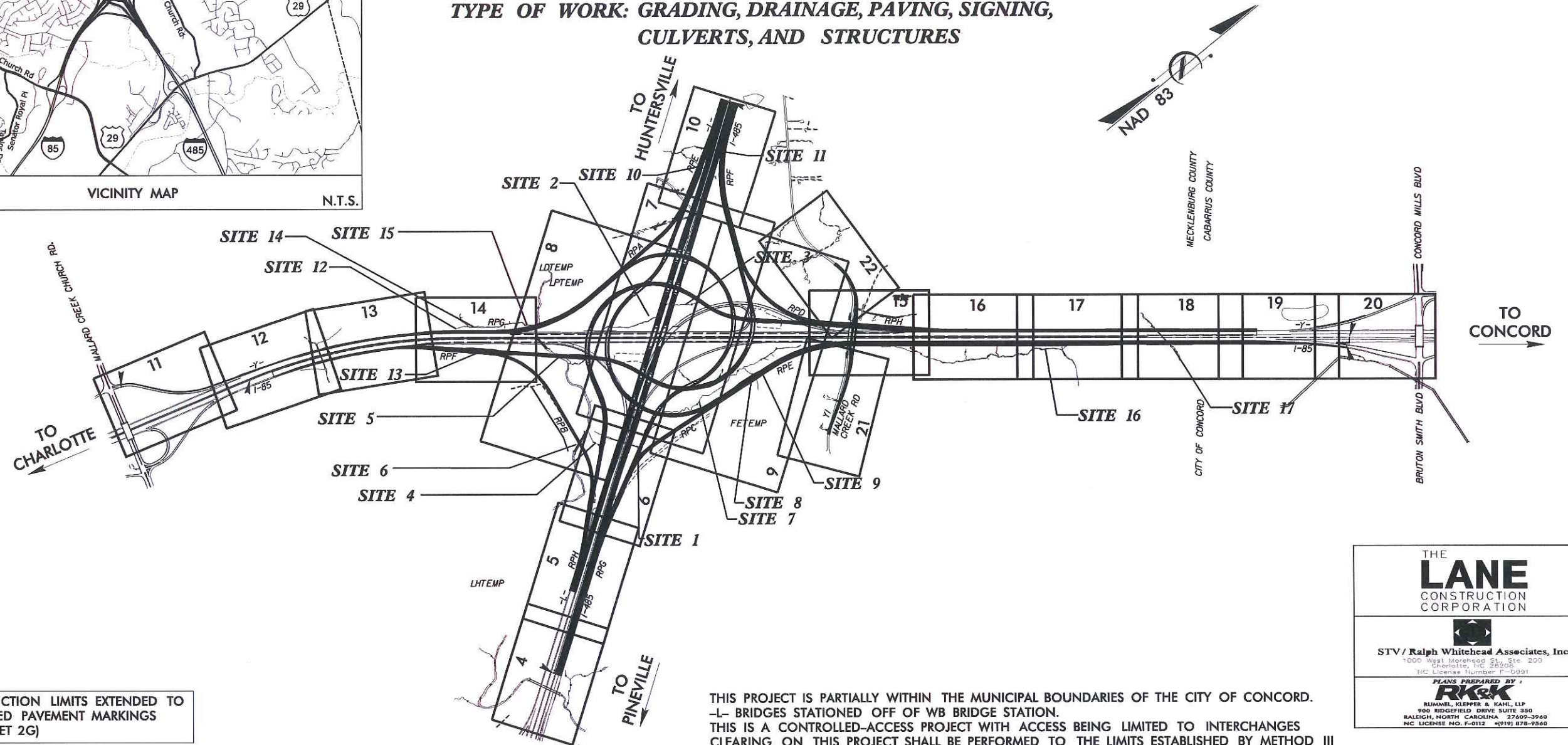
See Sheet 1-A For Index of Sheets  
See Sheet 1-B For Conventional Plan Sheet Symbols



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

MECKLENBURG & CABARRUS COUNTY

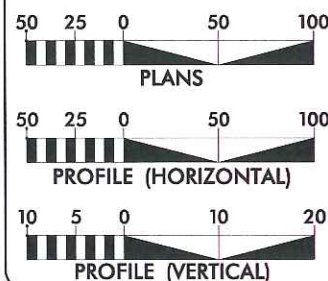
LOCATION: I-485 (CHARLOTTE EASTERN OUTER LOOP) / I-85  
TYPE OF WORK: GRADING, DRAINAGE, PAVING, SIGNING,  
CULVERTS, AND STRUCTURES



NOTE: CONSTRUCTION LIMITS EXTENDED TO  
COVER PROPOSED PAVEMENT MARKINGS  
(SEE DETAIL SHEET 2G)

THIS PROJECT IS PARTIALLY WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF CONCORD.  
-L- BRIDGES STATIONED OFF OF WB BRIDGE STATION.  
THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES  
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III

GRAPHIC SCALES



DESIGN DATA

I-485 (-L-)  
ADT 2008 = 66,600  
ADT 2035 = 155,800  
DHV = 10%  
D = 55%  
T = 13% \*  
V = 70 mph

FUNCTIONAL CLASSIFICATION:  
INTERSTATE  
\* (TTST 8% + DUAL 5%)

DESIGN DATA

I-85 (-Y-)  
ADT 2008 = 104,600  
ADT 2035 = 190,400  
DHV = 10%  
D = 55%  
T = 15% \*  
V = 70 mph

FUNCTIONAL CLASSIFICATION:  
INTERSTATE  
\* (TTST 10% + DUAL 5%)

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT R-2123CE = 1.270 MILES  
LENGTH OF STRUCTURE TIP PROJECT R-2123CE = 0.135 MILES  
(BASED ON WB BRIDGES)  
TOTAL LENGTH OF TIP PROJECT R-2123CE = 1.405 MILES

NC DOT CONTACT: RODGER ROCHELLE, PE  
Project Engineer - Alternate Delivery Unit

PLANS PREPARED FOR THE NCDOT BY:  
STV/RALPH WHITEHEAD ASSOCIATES, INC.  
1000 West Morehead St., Ste. 200, Charlotte NC, 28208  
NC License Number F-0991

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:  
SEPTEMBER 28, 2010

LETTING DATE:  
SEPTEMBER 28, 2010

JOHN N. JOHNSON, PE  
PROJECT ENGINEER

JOSEPH A. FREEMAN, PE  
PROJECT DESIGN ENGINEER

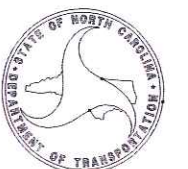
HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN  
ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA



THE  
LANE  
CONSTRUCTION  
CORPORATION

STV / Ralph Whitehead Associates, Inc.  
1000 West Morehead St., Ste. 200  
Charlotte, NC 28208  
NC License Number F-0991

PLANS PREPARED BY:  
RK&K  
RUMMEL, KLEPPER & KAHL, LLP  
PO BOX 330  
RALEIGH, NORTH CAROLINA 27602-0330  
NC LICENSE NO. F-0112 49191 878-9540